

REMARKS

The Official Action of November 15, 2006, made Final, has been carefully reviewed. Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

Claims 57-61 that were previously withdrawn as being directed to a non-elected invention have been canceled without prejudice. The claims under consideration are Claims 42-56.

I. Rejection of Claims 42-56 under 35 U.S.C. § 103(a) over Cowden

Claims 42-56 stand rejected under 35 U.S.C. § 103(a) for being obvious over Cowden et al., WO 01/96315.

The Applicants respectfully traverse this rejection and provide the following comments. The Applicants respectfully assert that the cited references do not disclose or suggest the claimed invention. Nor would the cited references have motivated or enabled one skilled in the art to employ the claimed process to prepare the subject compound in accordance with the claimed invention. Moreover, in view of the state of the art, there would have been no reasonable expectation of success and one skilled in the art would have been discouraged from using a sulfonate salt of semicarbazide to prepare 3-chloromethyl-1,2,4-triazolin-5-one in accordance with the process of the claimed invention.

As discussed in the Specification (page 1, line 9 to page 2, line 10), the process of Cowden et al., WO 01/96315, employs the hydrochloride salt of semicarbazide. This reaction takes about 3 days, which is very time consuming for large scale or industrial use.

The present invention claims the use of a sulfonate salt of semicarbazide to prepare 3-chloromethyl-1,2,4-triazolin-5-one. Accordingly, the claimed process is distinct from the methods of Cowden et al. As the Examiner recognized, Cowden et al. does not specifically disclose or suggest the use of a sulfonate salt of semicarbazide to prepare 3-chloromethyl-1,2,4-triazolin-5-one. The generic teaching in Cowden et al. of "salt thereof" is not sufficient to disclose or suggest the use of a sulfonate salt of semicarbazide.

Cowden et al. does not generically or specifically disclose or suggest the use of a sulfonate salt of semicarbazide. The Examiner improperly relies on the present specification to allege that use of the hydrochloride salt of Cowden et al. is equivalent to use of the sulfonate salt as claimed in accordance with the present invention.

Nothing in Cowden et al. discloses or suggests that the reactant sulfonate salt of semicarbazide may be successfully reacted under the claimed conditions to provide the product 3-chloromethyl-1,2,4-tirazolin-5-one.

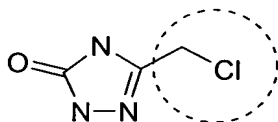
In the Examiner's first rebuttal of Applicant's argument, the Examiner stated: "Cowden et al. teaches equivalency of the hydrochloride salt with any other salt in the generic teaching 'salt thereof'. As applicants noted previously, use of the hydrochloride salt disclosed by Cowden et al. is not in fact "equivalent" to use of the sulfonate salt in accordance with the present invention.

The use of the hydrochloride salt is not equivalent to use of the sulfonate salt. The present invention provides unexpected benefits relative to the use of the hydrochloride salt disclosed by Cowden et al. As disclosed in the Specification (page 1, line 28 to page 2, line 10), use of the sulfonate salt in accordance with the present invention provides unexpected benefits relative to the use of the hydrochloride salt of Cowden et al.

In accordance with the present invention, the use of alkyl or aryl sulfonic acid salts of semicarbazide, such as the methanesulfonic (mesylate) or para-toluenesulfonic (tosylate) salts of semicarbazide, surprisingly results in improved reaction yields, shorter reaction times, no detectable decomposition of orthoester and greater purity of the final product. Also, by the use of sulfonic acid salts, it is possible to elevate the reaction temperature. Additionally, the reaction time is reduced considerably compared to conventional routes disclosed by Cowden et al. These unexpected benefits are not disclosed or suggested by Cowden et al.

In the Examiner's second rebuttal of Applicant's argument, the Examiner stated: "In Example 2, Cowden et al., teaches a fast reaction- within 2 hours at room temperature for compound of formula I where R is H with almost 100% yield." The Applicants respectfully submit that the Examiner's reliance on Example 2 of Cowden et al. is misguided.

Applicants note that the subject compound of Example 2 of Cowden et al. where R is H is 1,2,4-triazolin-5-one. The subject compound of Example 2 is structurally very different from the subject compound prepared in accordance with the present claims, i.e. 3-chloromethyl-1,2,4-triazolin-5-one:



Accordingly, the reaction time and conditions disclosed in Example 2 of Cowden et al. for preparing 1,2,4-triazolin-5-one from semicarbazide hydrochloride would not have been considered by one of ordinary skill in the art to be especially relevant for the preparation of 3-chloromethyl-1,2,4-triazolin-5-one.

The more relevant disclosure of Cowden et al. is Example 1 which discloses that the process to prepare 3-chloromethyl-1,2,4-triazolin-5-one from semicarbazide hydrochloride required 4 days. As disclosed in the specification, the use of alkyl or aryl sulfonic acid salts of semicarbazide, such as the methanesulfonic (mesylate) or para-toluenesulfonic (tosylate) salts of semicarbazide, to prepare 3-chloromethyl-1,2,4-triazolin-5-one results in shorter reaction times than the use of semicarbazide hydrochloride.


Thus, Applicants respectfully submit that Cowden et al. would have failed to provide the requisite guidance for one of ordinary skill in the art to have successfully reacted sulfonate salt of semicarbazide under the claimed conditions to obtain the product 3-chloromethyl-1,2,4-triazolin-5-one. In addition, Cowden et al. would have taught one of ordinary skill in the art away from the present invention by suggesting that the use of semicarbazide hydrochloride would have been the appropriate process for preparing 3-chloromethyl-1,2,4-triazolin-5-one.

The Applicant respectfully asserts that the rejection of Claims 42-56 under 35 U.S.C. § 103(a) for being obvious over Cowden et al., WO 01/9631 is untenable and should be withdrawn.

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The Applicant respectfully contends that the application is allowable and a favorable response from the Examiner is earnestly solicited.

Respectfully submitted,

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